

CLAIMS:

1. An electrophotographic apparatus comprising a plurality of image forming means comprising a photosensitive drum provided on a surface thereof with a photosensitive layer, charging means for having the photosensitive layer charged at a predetermined electric potential, exposure means for subjecting the photosensitive layer to exposure on the basis of image data to form an electrostatic latent image, and developing means for adhering toner to the electrostatic latent image on the photosensitive drum to form a toner image, and wherein

the plurality of image forming means are arranged in contact with the photosensitive drums with an outer peripheral surface of a straight portion of an endless intermediate transfer belt, which is stretched around a drive roller and a driven roller to revolve, or of a medium conveyance belt, and are overlapped one another along said straight portion to transfer toner images formed on the plurality of photosensitive drums through the intermediate transfer belt or directly to a medium to form a color image, and wherein

the developing means comprises a tip end part of a developing means and a toner storage part coupled to the tip end part of the developing means to store toner, said tip end part comprising a developing roller in contact with the photosensitive drum to rotate to form a thin toner layer on a surface of the

photosensitive drum, a supplying roller for supplying toner to the developing roller, and a toner regulatory blade brought into linear contact with an outer peripheral surface of the developing roller at a predetermined pressure to form a thin toner layer on the surface of the photosensitive drum, and wherein

a thickness of the tip end part of the developing means in a direction of movement of the intermediate transfer belt or the medium conveyance belt is smaller than a thickness of the toner storage part in the direction of movement, and wherein

the exposure means is arranged in a location, in which the tip end part of the developing means is small in thickness.

2. The electrophotographic apparatus according to claim 1, wherein the toner regulatory blade extends in a direction along a normal to the straight portion of the intermediate transfer belt or of the medium conveyance belt and arranged so as to come into contact with the developing roller from a direction following rotation of the developing roller.

3. The electrophotographic apparatus according to claim 2, wherein sum of thickness of the tip end part of the developing means and thickness of the toner storage part in the direction of movement of the intermediate transfer belt or the medium conveyance belt is at most 2 times a diameter of the photosensitive drums.

4. The electrophotographic apparatus according to claim 3, wherein in a space formed by a tip end part of a developing means and a toner storage part of a developing means of a first image forming means of said plurality of image forming means, an exposure means and a charging means of said first image forming means, or an exposure means and a charging means of a second image forming means which is arranged adjacent to said first image forming means for a different color are arranged.

5. The electrophotographic apparatus according to claim 1, wherein the tip end part of the developing means is fixed to a body of the electrophotographic apparatus and only the toner storage part of the developing means is detachably mounted in the body of the electrophotographic apparatus.

6. An electrophotographic apparatus comprising a plurality of image forming means comprising a photosensitive drum provided on a surface thereof with a photosensitive layer, charging means for having the photosensitive layer charged at a predetermined electric potential, exposure means for subjecting the photosensitive layer to exposure on the basis of image data to form an electrostatic latent image, and developing means for adhering toner to the electrostatic latent image on the photosensitive drum to form a toner image, and wherein the plurality of image forming means are

arranged in contact with the photosensitive drums with an outer peripheral surface of a straight portion of an endless intermediate transfer belt, which is stretched around a drive roller and a driven roller to revolve, or a medium conveyance belt, and are overlapped one another along said straight portion to transfer toner images formed on the plurality of photosensitive drums, through the intermediate transfer belt, or directly to a medium to form a color image, and wherein

the developing means comprises a tip end part of a developing means and a toner storage part coupled to the tip end part of the developing means to store toner, said tip end part comprising a developing roller in contact with the photosensitive drum to rotate to form a thin toner layer on a surface of the photosensitive drum, a supplying roller for supplying toner to the developing roller, and a toner regulatory blade brought into linear contact with an outer peripheral surface of the developing roller at a predetermined pressure to form a thin toner layer on the surface of the photosensitive drum, and wherein

the toner regulatory blade extends in a direction along a normal to the straight portion of the intermediate transfer belt or of the medium conveyance belt and arranged so as to come into contact with the developing roller from a direction following rotation of the developing roller.

7. The electrophotographic apparatus according

to claim 6, wherein the toner regulatory blade is made of a spring plate formed with at least one bend, and

the toner regulatory blade is brought into contact with the developing roller at a position between about 10° and about 60° from a vertical line passing through the axis of the developing roller toward an upstream direction of rotation of the developing roller.

8. The electrophotographic apparatus according to claim 7, wherein the toner regulatory blade has a cross sectional shape of symbol √ having a first bend and a second bend, and

the toner regulatory blade includes a first arm of a predetermined length between the first bend and the second bend and a second arm of a length of several milliliters beyond the second bend, said second bend having a radius of curvature of 0.2 to 1.0 mm.

9. The electrophotographic apparatus according to claim 8, wherein a space formed by the toner regulatory blade and the developing roller in an upstream direction of rotation of the developing roller has an extent sufficient for toner circulation, and

the predetermined length of said first arm is at least 1.5 mm.

10. The electrophotographic apparatus according to claim 9, wherein said second bend has an angle of less than 90°, and

an angle formed between the first arm of the

toner regulatory blade and a line drawn in parallel to the straight portion of the intermediate transfer belt or of the medium conveyance belt is equal to or larger than an angle formed between a line connecting the center of the developing roller and the contact portion and said parallel drawn line.

11. The electrophotographic apparatus according to claim 10, wherein the toner regulatory blade is made of a spring material, such as SUS, phosphor bronze, or the like, having a good thermal conductivity.

12. The electrophotographic apparatus according to claim 11, wherein the toner regulatory blade has coating for inhibiting adherence of toner between the contact portion and a mount potion.

13. The electrophotographic apparatus according to claim 6, wherein the tip end part of the developing means is fixed to a body of the electrophotographic apparatus and only the toner storage part of the developing means is detachably mounted in the body of the electrophotographic apparatus.